VITT, S.V.; ZHARIKOVA, N.A.; PASKONOVA, Ye.A.; BONDAREV, V.B.

Alkylation of toluene by alkyl halides and the ratio of the
formed isomers. Izv. AN SSSR Ser. khim. no.11:2099-2101 N '64
(MIRA 18:1)

1. Institut elementoorganicheskikh soyedineniy AN SSSR i Insti-
tut biokhimii i fiziologii mikroorganizmov AN SSSR.

VITT, S.V.; ZHARIKOVA, N.A.; PASKONOVA, Ye.A.; BONDAREV, V.B.

Separation of isomeric alkyl benzenes by gas chromatography.
Zhur. anal. khim. 20 no.8:850-855 '65.   (MIRA 18:10)

1. Institut elementoorganicheskikh soyedineniy AN SSSR i
Institut biokhimii i fiziologii mikroorganizmov AN SSSR, Moskva.

GOL'DBERG, N.A.; AL'TSHULER, L.N.; Prinimali uchastiye: MOLOCHNYY, V.B.;
ZHARIKOVA, V.I.

Macroscopic kinetics and the mechanism of urea synthesis from
ammonia and carbon dioxide. Khim.prom. no.9:638-642 S '62.

(MIRA 15:11)

(Urea) (Ammonia) (Carbon dioxide)

KARGIN, V.A., akademik; ZHARIKOVA, Z.F.; BERESTNEVA, Z.Ya.; REZTSOVA. Ye.V.

Structure of crude and vulcanized rubbers studied by replica grating
techniques. Dokl. AN SSSR 158 no.3:697-698 S '64.

(MIRA 17:10)

1. Fiziko-khimicheskiy institut im. L.Ya.Karpova i Nauchno-issledovatel'-
skiy institut shinnoy promyshlennosti.

GORELIK, B.M.; BUKHINA, M.F.; Prinimali uchastiye: DAMAYEVA, S.F.;
ZHARIKOVA, Z.D.; LAVRENT'YEV, A.A.

Crystallization of rubbers at low temperatures under compression.
Kauch. i rez. 20 no.11:11-15 N '61.   (MIRA 15:1)

1. Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti.
          (Rubber)   (Crystallization)

processes in these rubbers by reduction of the temperature. The structures present in the raw rubbers were found to be preserved during the vulcanization

chemical bonds, is only a very rough approximation. Orig. art. has 4 figures.

JPRS

Card 2/2

REZTSOVA, Ye.V.; SLONIMSKIY, G.L.; ZHARIKOVA, Z.F.

Mechanical and chemical phenomena occurring in the processing
of synthetic rubbers. Kauch. i rez. 22 no.12:10-14 D '63.
(MIRA 17:9)
1. Nauchno-issledovatel'skiy institut shinnoy promyshlennosti.

ZHARIN, A.I., inzh.

Use of computers in transportation. Zhel. dor. transp. 46 no.8:
80-81 Ag '64.   (MIRA 17:11)

ZHARIN, A.I.

Vibration sinker of foundations for contact-network supports.
Biul. tekh.-ekon. inform. no.1:67-69 '57.   (MIRA 11:4)
(Piling (Civil engineering))

KALININ, S.S., inzhener; ZHARIN, A.I., inzhener.

Improving the design of motorcar sections. Zhel.dor.transp.
37 no.7:28-29 Jl '56.   (MLRA 9:8)
                    (Railroad motorcars)

GAPANOVICH, V.Ya.; ZHARINA, M.A.

Case of cholesteatoma of the maxillary sinus. Zdrav.Belor. 5
no.6:71 Je '59.   (MIRA 12:9)

1. Iz kliniki boleznoy ukha, gorla i nosa (zaveduyushchiy -
doktor meditsinskikh nauk N.P.Kniga) Minskogo meditsinskogo
instituta.
                  (NOSE, ACCESSORY SINUSES OF--TUMORS)

BOL'SHOV, V.G.; DOBRETSOV, L.N.; ZHARINOV, A.A.; KRACHINO, T.V.;
RIPNIKOVA, M.K.

Emission properties of germanium treated in cesium vapor. Fiz.
tver.tela 1 no.11:1768-1770 N '59.   (MIRA 13:4)

1. Leningradskiy Fiziko-tekhnicheskiy institut AN SSSR.
              (Germanium)

ZHARINOV, A.

57-8-21/36

AUTHOR Zharinov A.
TITLE   A Study of the Transverse Motion of Ions in Discharge in a Strong
        Longitudinal Magnetic Field.
        (Izucheniye poperechnogo dvizheniya ionov v razryade v sil'nom
        prodol'nom magnitnom pole - Russian)

PERIODICAL Zhurnal Tekhn.Fiz., 1957,Vol 27, Nr 8, pp 1803-1810   (U.S.S.R.)

ABSTRACT The possibility to determine the mean cross-velocity direction of
          ions by means of a flat rotating search electrode is shown. Further-
          more the course of the ion- cross-motion in the secondary plasma
          of the discharge in a strong longitudinal magnetic field was inve-
          stigated. The search electrode used was a double-flat type with mu-
          tually screening inner surfaces, the construction of which was prin-
          cipally not different from that Rozhanskiy (T,1934 Vol 4,p 1271).
          By means of the results obtained the author shows that with such a
          search electrode the general character of the cross-motion of ions
          can be determined. The author also shows that in the case of a dis-
          charge in argon at a pressure of $p < 3.10^{-3}$mm HgS- Torr a remarkable
          part of the ions reaches the side walls of the discharge chamber
          without collisions inspite of the strong magnetic field of ~ 2300
          Oersted present. Based on this the author carries out a classifica-
          tion of ion energy obtained in radial electric discharge fields.
          (6 illustrations and 2 Slavic references).

Card 1/2

A Study of the Transverse Motion of Ions in Discharge 57-8-21/36
in a Strong Longitudinal Magnetic Field.

ASSOCIATION   Moscow Laboratory for Measuring Instruments of the Academy of Scien-
              ces of the U.S.S.R.
              (Laboratoriya izmeritel'nykh priborov AN SSSR,Moskva)
SUBMITTED   February 6, 1957,
AVAILABLE   Library of Congress
Card 2/2

GARPINCHENKO, A.,; ZHARINOV, A.

Training on the training grounds. Pozh.delo 6 no.2:14-15
F '60.   (MIRA 13:5)

1. Nachal'nik Upravleniya pozharnoy okhrany Tatarskoy ASSR
(for Garpinchenko). 2. Nachal'nik vtorogo otryada pozharnoy
okhrany Tatarskoy ASSR (for Zharinov).
          (Fire prevention--Study and teaching)
     (Tatar A.S.S.R.--Petroleum industry--Fires and fire prevention)

24(6) 24.7700   66291

AUTHORS: Bol'shov, V. G., Dobretsov, L. N.,   SOV/181-1-11-26/27
              Zharinov, A. A., Krachino, T. V., Repnikova, M. K.

TITLE: Emission Properties of Germanium Treated in Cesium Vapors

PERIODICAL: Fizika tverdogo tela, 1959, Vol 1, Nr 11, pp 1768-1770 (USSR)

ABSTRACT: The thermal, photoelectric and secondary electron emissions
              of monocrystalline n-germanium samples and germanium films
              were measured in the conventional way. For the germanium
              films the germanium was deposited by evaporation in vaccum
              on glass or a tantalum foil and the latter was subsequently
              treated in cesium vapors. The measuring results are the
              following: for the germanium film deposited by evaporation
              on glass and subsequently processed, an increase by 2
              orders of magnitude could be established in the electrical
              conductivity. This points toward a change in volume of the
              layer. Figure 1 contains the dependence of the real work
              function φ_T on the temperature of the cathode following
              a cesium treatment at $800^\circ C$ cathode temperature and a $\approx 150^\circ C$
              measuring instrument temperature. If the cathode is heated
              at $T > 300^\circ C$ for a sufficiently long period after the cesium
Card 1/3   processing and if the cesium vapors are frozen out, one can

66291

Emission Properties of Germanium Treated in   SOV/181-1-11-26/27
Cesium Vapors

again obtain a φ_p, corresponding to the value of pure
germanium. Figure 2 represents the characteristic spectrum
distribution of 2 photoelectric elements, whose germanium
photoelectric cathodes were treated in the following method:
a) germanium was evaporated in a vacuum, precipitated on
molybdenum glass, and treated with cesium vapor. The
temperature of the vapor and the sample was ~200°C. b) The
photoelectric cathode was illuminated through an uviol
glass mounted before the sample. Figure 3 contains the course
of the secondary electron-emission coefficients σ (measured
at room temperature) for the following samples: a) non-
treated germanium, b) germanium treated at 150°C in cesium
vapor and for several minutes at a sample temperature of
~800°C. Figures 2 and 3 show that, disregarding a certain
shift, the basic course of the curves is maintained for
both samples. Additional details will be published in the
near future. There are 3 figures.

ASSOCIATION: Leningradskiy fiziko-tekhnicheskiy institut AN SSSR
Card 2/3   (Leningrad, Physico-technical Institute of the AS USSR)

24(3)   SOV/89-7-3-2/29

AUTHOR: Zharinov, A. V.

TITLE: A Stepwise Increase in the Electron Current to a Probe in a
               Gas Discharge in a Magnetic Field

PERIODICAL: Atomnaya energiya, 1959, Vol 7, Nr 3, pp 215-219 (USSR)

ABSTRACT: The ratio between the probe electron current and the ionization
               current of a discharge tube is measured with the latter being
               located in a variable magnetic field (400 to 4500 oersted). The
               discharge tube is a copper cylinder which, on the one hand, is
               sealed by a molybdenum anode, and on the other hand by a hole-
               diaphragm. Outside the cylinder, exactly at the height of the
               hole of the diaphragm, an electron-emitting cathode, developed
               by B. N. Makov, is located. The anode itself has 6 holes (dia-
               meter: 0.8; 1; 2; 3; 4; 2 mm) which are uniformly distributed
               on a circle with r = 10 mm. ~0.5 mm behind these holes are
               6 probes. The discharge chamber may be filled with nitrogen. The
               discharge tube is built into a metallic vacuum chamber, which
               is located between the poles of an electromagnet. The vacuum in
               the measuring chamber, in spite of a continuous supply of nitro-
               gen, amounts to ~10^{-5} torr. The electric currents are measured
Card 1/3   as follows: between probe and anode a saw tooth generator and

SOV/89-7-3-2/29

A Stepwise Increase in the Electric Current to a Probe in a Gas Discharge in a Magnetic Field

a measuring resistance (1 kΩ) are connected in series. The constant component of the initial voltage of the generator is compensated with a battery in such a manner that the probe potential changes symmetrically to the anode potential. The signal arrives from the measuring resistance to the input of the direct-current amplifier UIPP-2, the output of which is connected with the deflection plates of the oscillograph EO-7. 8 probe oscillograms (at 1a discharge current, 180 v discharge voltage and $(2-3).10^{-3}$ torr pressure in the discharge tube) at various field strengths are photographically recorded. At certain critical magnetic field strengths a stepwise increase of the ratio between probe current and total discharge current is noticeable. The critical field strength changes proportionally with the gas pressure in the discharge tube. It is, therefore, probable that 2 different electron conveyer mechanisms exist. One of them is diffusion by collision. P. M. Morozov was interested in this paper. S. Sinotov took part in measurements. There are 7 figures and 3 references, 1 of which is Soviet.

Card 2/3

24(3)

SOV/89-7-3-3/29

AUTHOR: Zharinov, A. V.

TITLE: On the Diffusion of Electrons in a Magnetic Field

PERIODICAL: Atomnaya energiya, 1959, Vol 7, Nr 3, pp 220-224 (USSR)

ABSTRACT: In a discharge chamber (diameter 30 mm, length 100 mm) there
is an axially symmetric primary electron beam. A disk-shaped
probe (diameter 1 mm) is fitted to the anode, which may be
moved in a direction that is perpendicular to the magnetic
field. The discharge chamber itself is in a variable magnetic
field. By means of the probe it is possible to measure the cur-
rent distribution along the discharge cross section. For a dis-
charge voltage of 80 v, a discharge current of 200 ma, a field
strength of 2000 oersted, an argon pressure in the discharge
chamber of $2 \cdot 10^{-3}$ torr the current distribution is graphically
represented. The ion fraction measured at various points of
the discharge is also graphically shown. If these experimental
data are compared with the predictions of references 1 and 2,
it follows that the secondary plasma concentration distribution
(a discharge originating from a glow cathode) is practically

Card 1/2

On the Diffusion of Electrons in a Magnetic Field   SOV/89-7-3-3/29

independent of the transversal electron diffusion coefficient.
The diffusion mechanism can, therefore, not be explained by
this effect. If the electron diffusion coefficient is evaluated
according to the electron amperage measured at the anode, the
value obtained confirms the assumption that the electrons have
an anomalously great transversal mobility. I. V. Kurchatov
assisted in this work. There are 3 figures and 6 references,
2 of which are Soviet.

SUBMITTED: February 13, 1959

Card 2/2

22603
S/089/61/010/004/006/027
B102/B212

$24, 2120 (1049, 1141, 1160)$

AUTHOR: Zharinov, A. V.

TITLE: A rotating plasma jet in a discharge taking place in a magnetic
            field

PERIODICAL: Atomnaya energiya, v. 10, no. 4, 1961, 368-369

TEXT: The author has discovered a sudden increase of the electron current
to ion current ratio at the probe in the presence of a magnetic field of a
certain critical strength (Ref. 1:   Atomnaya energiya, 7, no. 3, 215 (1959)).
The present "Letter to the Editor" reports on additional tests made with the
device described in Ref. 1 to which a thermocouple manometer tube had been
added.   Also the design of the eight probes and their arrangement in the
cathode plane were changed. Fig. 1 shows the new arrangement (the diagram
is made from the cathode side and looking in the $\vec{H}$-direction). The dis-
charge space was filled with hydrogen, nitrogen, and argon. The critical
magnetic field strength H_{cr} has been investigated as a function of pressure
and the type of gas. Fig. 2 shows H_{cr}(in oe) as a function of pressure

Card 1/5

22603

S/089/61/010/004/006/027
B102/B212

A rotating ...

p (in mm Hg) for the three gases and a discharge current I_d = 0.5 a at
V_d = 270 v. Pictures of the probe currents taken with an oscilloscope of
type ДЭСО -1 (DESO-1) show that a transverse plasma jet rotating around the
primary electron beam occurs near H_{cr}. Fig. 3 shows current oscillograms

taken at probes 1 and 6. Both probes had been connected with the anode via
a 5-kilohm precision resistance. The repetition period of the regular peaks
was read from the oscillogram as 65 µsec. The peaks corresponded to an
ion-current increase by 30-40 µa; this value is comparable with the constant
component. The current at probe 6 showed a phase shift of 90° compared to
that at probe 1, i.e., the jet rotated counterclockwise. According to the
conditions of discharge, there will be various types of jets; under certain
conditions there may be even two jets rotating synchronously. It has been
observed that the period of rotation decreased as H increased: Fig. 4 shows
the period of rotation, T, as a function of H. For comparison, the H-depend-
ence of the Larmor rotation has been entered for Ar ions (curve 3). The
velocity of rotation of the jet was $1-3 \cdot 10^5$ cm/sec; this quantity may be
related to the drift rate $c\,\boxed{\text{EH}}/H^2$. It can be assumed that the "anomalous
rate of transverse diffusion" which has been observed under similar condi-
tions by Bohm et al. (Ref. 2), was caused by one or several rotating jets.

Card 2/5

A rotating ...

S/089/61/010/004/006/027
B102/B212

Hayday (lecture at the Second Geneva Conference, 1958) has observed a similar rotation of the plasma jet. There are 4 figures and 3 references: 2 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: Ref. 2: A. Guthrie, R. Wakerling. The Characteristics of Electrical Discharges in Magnetic Field. New York, McGraw-Hill Book Co., 1949.

Fig. 1
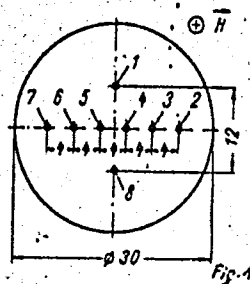
Card 3/5

34212
S/057/62/032/002/013/022
B124/B102

AUTHORS: Bol'shov, V. G., and Zharinov, A. A.

TITLE: Thermionic converter anodes

TEXT: The aim of the present paper was to show that sufficiently low work functions can be obtained with layers formed by evaporating certain high-melting compounds in cesium vapor, which are suitable cathode materials for converters. The mean surface work function of the collector was calculated from $U_c = \varphi - \bar{\varphi}_c$, where the external potential difference U_o is experimentally determined, and the work function $\bar{\varphi}_c$ of the cathode is measured with the setup shown in Fig. 1. It consists of a cylindrical glass bulb with a tantalum or tungsten electrode Л attached to the leads of jaw A which collects the evaporation products of the substance examined. A thermocouple made of W and Ta wires with a diameter of 0.15 mm was connected to the tape. The base plate of evaporator И made of Ta, W, or graphite, to which the examined substance has been applied, is attached to two leads

Card 1/4

Thermionic converter ...

34212
S/057/62/032/002/013/022
B124/B102

of jaw B. The cathode K made of Ta or W wire, 0.15 mm in diameter, and about 6 mm long, is placed between the collector and the evaporator at a distance of 1 mm from both. A small flask containing cesium is connected to jaw B and separated from the device by a thin glass diaphragm which, if necessary, is broken with a block. The temperatures of the cathode, evaporator, and collector are usually measured with an optical pyrometer of type ОПИР-09 (OPIR-09). The examined substance, present in the form of a suspension in a nitrocellulose solution in amyl acetate, was applied to the collector side of the evaporator. The setup was degassed by evacuation while keeping it at 400 - 450°C for 20 hrs, and by successive heating of the cathode and the collector to 2100 - 2400°C while heating the evaporator to 1200°C. The final pressure in the system was $5 \cdot 10^{-8}$ mm Hg. The error in measurement was ± 0.05 ev for φ. The work functions of these products at a collector temperature of about 300°K were φ_c = 4.4 $\pm$ 0.05 ev. The vapor pressure of cesium was calculated from $\log P = A - \frac{B}{T}$, where A = 6.86, B = 3774, and T is the absolute temperature of the cesium flask. The tangents to the current-voltage characteristics whose slopes determine the cathode temperature are extrapolated until they intersect the line of

Card 2/4

L 1931-66   EWT(m)/EPF(c)/ETC/EPF(n)-2/EWG(m)/EWP(b)
ACCESSION NR: AT5022583   UR/3136/64/000/592/0001/0020

AUTHOR: Gavrilov, B. Ye.; Zharinov, A. V.; Rayko, V. I.

TITLE: Dynamic decompensation of the space charge of ion beams in electromagnetic isotope separation

SOURCE: Moscow. Institut atomnoy energii. Doklady, IAE-592, 1964. O dinamicheskoy dekompensatsii prostranstvennogo zaryada ionnykh puchkov pri elektromagnitnom razdelenii izotopov, 1-20

TOPIC TAGS: ion beam, plasma density, plasma oscillation, space charge, gas discharge plasma

ABSTRACT: An attempt is made at an elementary theoretical generalization of certain properties of intense ion beams, primarily for the purpose of finding possible methods of controlling dynamic decompensation. It is shown that the geometrical properties of beams extracted from plasma obey the laws of similarity. On the basis of these laws, general relationships are established which correlate the plasma density pulsations in the source, the angular divergence, the degree of dynamic decompensation, and the beam potential. The elementary theoretical analysis used shows that the regimes most favorable from the standpoint of dynamic decompensation of ion beams are those corresponding to divergent beams. Under these conditions, the degree of dynamic decompensation is minimal and is

Card 1/2

L 1931-66
ACCESSION NR: AP5022583

the same in order of magnitude as the relative pulsation of plasma density in the discharge. Therefore, since it is always possible to select regimes where the pulsations of angular divergence become unimportant, a further increase in the intensity of compensated ion beams will require the development of methods for substantially decreasing the level of current density pulsations in the discharge. Orig. art. has: 8 figures, 19 formulas, and 1 table.

ASSOCIATION: None

SUBMITTED: 00   ENCL: 00   SUB CODE: ME, EM

NO REF SOV: 003   OTHER: 001

Card 2/2

L 2339-66   EWT(1)/EPA(s)-2/EPA(w)-2/EWA(m)-2
ACCESSION NR: AT5022106   UR/3136/64/000/780/0001/0043

AUTHORS: Vlasov, M. A.; Dobrokhotov, Ye. I.; Zharinov, A. V.

TITLE: Instability of electric discharge in a magnetic field in the presence of a
heated cathode, at low pressures

SOURCE: Moscow. Institut atomnoy energii. /Doklady/, IAE-780, 1964. Neustoychivost'
razryada s nakalennym katodom v magnitnom pole pri nizkikh davleniyakh, 1-43

TOPIC TAGS: plasma magnetic field interaction, plasma rotation, plasma beam insta-
bility, plasma research, plasma instability

ABSTRACT: The behavior of an electric discharge in a magnetic field in the presence
of a heated cathode at low pressures was studied. The maximum magnetic field
strength was 2000 oersted and the gas pressure varied from 2×10^{-16} to 10^{-4} mm Hg.
The gases used were A, H_2 and N_2. The experimental installation is shown schema-
tically in Fig. 1 on the Enclosure. It was found that: 1) the plasma beam had a
negative charge with respect to the walls of the discharge chamber; 2) a stationary
rotating magnetic "flare" formed in the plasma; the direction of rotation was toward
the electron side; 3) the formation of the spinning flare was pressure dependent and
was not observed to form for pressures higher than P^* (for A and N_2, P^* = was 5.6

Card 1/6

L 2339-66
ACCESSION NR: AT5022106   O

and 5.8 x 10^{-5} mm Hg respectively); 4) the instability was caused by the drift of particles in the crossed magnetic and electric fields created as a result of polarization. For systems characterized by end-loss of particles such an instability was observed to be pressure dependent and arose only at pressures higher than P_{or} (for A, N_2, and H_2, P_{or} is 0.84, 0.74, and 10 x 10^{-5} mm Hg respectively). By assuming that the observed rotation of the discharge beam is due to the overall plasma rotation expressions for the electric field as a function of the pressure

$$U_3^\# = U_{e1} \ln \left[\gamma \sqrt{\frac{U_a}{U_{e1}}} \frac{1}{n_o \sigma_i \vartheta_{e1} \frac{L}{\vartheta_i} - 1} \right]$$

and for the frequency of flare spin

$$f_D(kHz) = C_1 \frac{E_a H}{C_1 E_a A + \alpha H^2}$$ were derived,

where $U^\#z$ is the retarding potential corresponding to $P^\#$, U_a and U_{ez} the energy of primary and secondary electrons, n_o the neutral gas density, σ_1 ionization cross section, ϑ_{e1} and ϑ_i velocity of primary electrons and ions, L length of discharge,

Card 2/6

L 2339-66
ACCESSION NR: AT5022106

3

f_D(kHz) is the frequency of flare spin, C_1 and C_2 are constants equal to 3×10^4 and 2×10^4 respectively, E field strength at boundary of beam, H the magnetic field strength, a the beam radius, and A the atomic weight of the ions. Both expressions are in good qualitative agreement with experimental results. The dependence of flare spin frequency on the retarding potential is shown graphically in Fig. 2 on the Enclosure. Orig. art. has: 1 table and 22 graphs.

ASSOCIATION: Institut atomnoy energii im. I. V. Kurchatova (Institute for Atomic Energy)

SUBMITTED: 00   ENCL: 03   SUB CODE: NP

NO REF SOV: 001   OTHER: 005
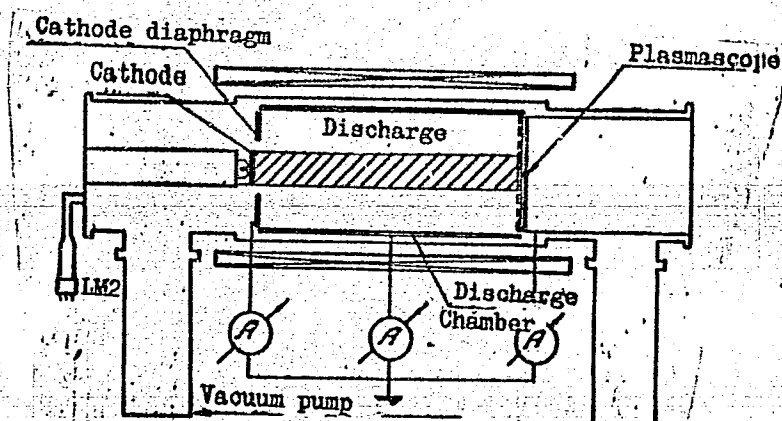
Card 3/6

L 2339-66
ACCESSION NR: AT5022106

Fig. 1. Schematic of the experimental installation.

Card 4/6.

L 2339-66
ACCESSION NR: AT5022106

Card 5/6

To Card 6/6

L 2339-66
ACCESSION NR: AT5022106
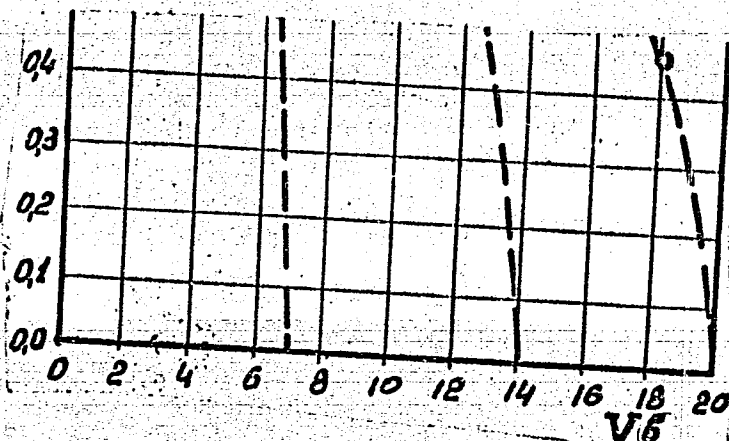
From Card 5/6

ENCLOSURE: 03

0

Fig. 2. Change in flare spin frequency during cut-off of secondary electron emission. Argon. $U_a = 200$ v. I_a (anode current) 10 mA; $H = 575$ oersted; $L = 30$ cm, $0 - P = 2 \times 10^{-5}$; $\oplus - P = 4 \times 10^{-5}$; $\oplus - P = 6 \times 10^{-5}$ mm Hg

Card 6/6

ACC NR₁   AP6002443

EWT(1)/EWT(m)/ET(f)/EWG(m)/T/EWA(m)-2   IJP(c)   IS

AUTHOR: Kervalishvili, N.A.; Zharinov, A.V.

SOURCE CODE: UR/0057/65/035/012/2194/2201

ORG: none

TITLE: Characteristics of a low pressure discharge in a transverse magnetic field

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 35, no. 12, 1965, 2194-2201

TOPIC TAGS: gas discharge, argon, low pressure, transverse magnetic field, ion current, electric current, electrode

ABSTRACT: The authors have investigated 1 to 10 kV discharges in argon at pressures down to 5 x 10⁻⁵ mm Hg in transverse magnetic fields up to 1.3 kOe in order to elucidate the phenomena taking place in the region of negative space charge that is known to form near the anode. The anode was a 7 cm long, 1.8 cm diameter water cooled metallic cylinder. Three cathodes were simultaneously employed: a 10 cm diameter cylinder coaxial with the anode, and two 8 cm diameter circular disks mounted normal to the axis of the cylindrical electrodes, and 7.4 cm apart. One of the disk cathodes was of nickel wire mesh, and behind it was a 1 mm² probe with which the radial distribution of the axial electron and ion currents could be measured. The electron and ion currents to the central portion of the cylindrical cathode were also measured with the aid of a screened opening in the electrode and a probe. The magnetic field was parallel to the axis of the cylindrical electrodes. At pressures below 10⁻³ mm Hg

Card 1/2

UDC: 537.525

L 13447-66

ACC NR: AP5002443

there was clearly visible a luminous region around the ;anode; at higher pressures the
discharge current increased sharply and the luminosity filled the entire chamber. The
ion current measured by the probe behind the disk cathode was negligible compared with
the electron current. The radial distribution of the electron current to this probe
was independent of pressure and was maximum at a radius corresponding roughly to that
of the luminous region. The discharge current increased approximately linearly with
increasing discharge potential and increased but with approach to saturation with in-
creasing magnetic field strength. The form of the energy spectrum of the ions reaching
the center of the cylindrical cathode was independent of pressure and nearly indepen-
dent of magnetic field strength. The average energy of the ions corresponded to about
one-third the applied discharge potential. A simple theory of the discharge is
developed on the assumptions that electrons move parallel to an infinite plane anode
and ionize the atoms of a stationary gas. This theory accounts qualitatively for most
of the observed phenomena except the tendency of the discharge current to saturate
with increasing magnetic field strength. It is hypothesized that this saturation is
due to irregularities of the anode surface. This hypothesis was verified by further
calculations and experiments in which the anode was first carefully adjusted until it
was parallel to the magnetic lines of force and then provided with an artificial pro-
tuberance consisting of a 0.5 cm long ring of thickness from 0.03 to 0.6 cm. The
authors thank V.N.Danilov for proposing the theoretical model of the discharge. Orig.
art. has: 18 formulas, 7 figures, and 1 table.

SUB CODE: 20   SUBM DATE: 18Jan65

ORIG. REF: 003   OTH REF: 005

Card 2/2   FW

ZHARINOV, B.I. (Saransk, Mordovskaya ASSR)

Rural medic. Fel'd. i akush. 27 no.4:57-59 Ap '62. (MIRA 15:6)
(MEDENKOV, VLADIMIR VASIL'EVICH)

ZHARINOV, B.I.; fel'dsher (g. Saransk Mordovskoy ASSR)

Rank and file worker. Fel'd. i akush. 25 no.3:56-57 Mr '60.

(SHIPILOV, IGNAT SEMENOVICH, 1882-)   (MIRA 13:6)

TOKOREV, V., gruppovoy mekhanik; KOSOV, M., mekhanik; TRUSHNIKOV, G.,
mekhanik; ZHARINOV, N., mekhanik

Good helper for mechanics ["Refrigerator plants on ships" by
A.G.Aksenov. Reviewed by V.Tokarev and others]. Rech.transp. 20
no.6:30 Je '61.
(MIRA 14:6)

1. Teplokhod "Chernyshevskiy."
(Refrigeration on ships)
(Aksenov, A.G.)

ZHARINOV, V. D.

Ventilation

Sound-proofing ventilation systems of buildings. Konstr. i mat. no. 7, 1950.

L 7085-66   EWT(1)   IJP(o)

ACC NR: AP5027037   SOURCE CODE: UR/0020/65/165/001/0065/0068

AUTHOR: Sakharov, A. D. (Academician); Lyudayev, R. Z.; Smirnov, Ye. N.; Plyushchev, Yu. I.; Pavlovskiy, A. I.; Chernyshev, V. K.; Feoktistova, Ye. A.; Zharinov, Ye. I.; Zysin, Yu. A.

ORG: none

TITLE: Production of very high magnetic fields by explosives

SOURCE: AN SSSR. Doklady, v. 165, no. 1, 1965, 65-68

TOPIC TAGS: pulsed magnetic field, flux compression, high field pulse, implosive flux compression, explosive flux compression, betatron particle acceleration, high density plasma, plasma accelerator/ MK 1, MK 2

ABSTRACT: Experiments with the MK-1 and MK-2 explosion devices for the production of very high magnetic field pulses are described. The MK-1 device, which is based on the implosion of an axial flux within a metal shell, essentially resembles the arrangement described by Fowler and others (J. Appl. Phys. 31, 1965, 588). The MK-2, which works on the principle of the expulsion of the field from the solenoid and the subsequent compression of the field by the walls of the coaxial liner, is described here for the first time. Field intensities of 1×10^6 oe were obtained in experiments with an MK-1 using aluminum liners about 100 mm in diameter. In a subsequent experiment with a stainless steel liner with a copper plated inner surface, a field intensity of

Card 1/3   UDC: 538.4

L 7085-66

ACC NR: AP5027837

25×10^6 oe was achieved by imploding the liner to a 4-mm diameter. A field intensity of 5×10^6 oe in a volume of 100 cm^3 was produced by a copper liner 300 mm in diameter using the MK-2 as the source of the initial field. The MK-2 has a central conductive cylinder enclosed in a coaxial helical solenoid. On one end of the solenoid is a solid cup. A hole in the bottom of the cup holds the end of the central cylinder (see Fig. 1). The central cylinder is filled with an explosive which is ignited from the

Exploding tube — Explosive

Fig. 1. The MK-2 device

end opposite that holding the cup. The solenoid cylinder system forms the circuit through which a battery of capacitances is discharged. At the peak value of the dis- charge current, the expanding conical flare of the cylinder created by the propagating explosion touches the end of the solenoid. The explosion's further development is equivalent to moving a cone into the solenoid and shorting its turns until the cone reaches the cup. At this moment a coaxial is formed whose length and inductance grow smaller as the detonation propagates further along the cylinder. The process is accompanied by a corresponding increase in current and field intensity resulting from compression of the flux. Currents of 5×10^7 amp (occasionally up to 1×10^8 amp) at an inductance value of 0.01 µH were obtained, and field intensities of 1 to

Card 2/3

L 7085-66

ACC NR: AP5027837

1.5×10^6 oe were recorded within a volume of several liters. An energy of 1 to 2×10^7 J was stored in the field, which amounts to about 10 to 20% of the energy released during the propagation of the explosion within the length of the cup. A receiver of electromagnetic energy was connected to the MK-2 directly or via a transformer, depending on whether the receiver was of low or high inductance. About 50% of the explosive energy was transferred to the receiver by the latter method, which also permits a spatial separation of the sender and makes possible multi-stage arrangements. In the first stage, the initial field is created by a permanent magnet. The second and the subsequent stages amplify the field received from the preceding stage. Energy transfer was also accomplished by breaking the current-carrying circuit by means of an additional explosive charge and using the breaking surge for the transfer. More than 50% of MK-2 output was transferred by this method. A special MK device has been created for iron-free air core betatrons as described by Pavlovskiy and others (DAN, 160, no. 1, 1965, 68), and experiments have been carried out with electrodynamic accelerators of the coaxial type. Orig. art. has: 3 figures.   [FP]

SUB CODE: EM, NP/ SUBM DATE: 23Aug65/ ORIG REF: 002/ OTH REF: 001/ ATD PRESS: 4143

nw

Card 3/3

S/070/62/007/006/002/020
E132/E435

AUTHORS: Zaslavskiy, A.I., Karachentseva, Z.V.,
Zharinova, A.I.

TITLE: The distribution of the cations in the spinel $CuMn_2O_4$

PERIODICAL: Kristallografiya, v.7, no.6, 1962, 835-843

TEXT: The crystal structure of the spinel $CuMn_2O_4$ was
determined by X-ray diffraction methods using both photographic
and ionization chamber methods.   Fe radiation was used for cell
size determination and Mo for intensity measurements.   Work by
A.P.B.Sinha et al (J. Phys. Chem., v.62, no.2, 1958, 191-194) did
not agree with earlier work by the present authors as to the degree
of inverseness.   Sinha found the spinel to be normal ($\lambda = 0$) and
measured the 0 parameter as $u = 0.392$.   Zaslavskiy gave
$u = 0.375$ with the spinel half-inverse.   It has now been found
that λ may be between 0.67 and 1.0 .   These two possibilities,
a statistical distribution of the two kinds of atoms between the
8(a) and 16(d) positions and full inverseness, are hardly to be
distinguished.   It was confirmed that $u = 0.375$ (or 0.250 with
different origin).   Three dimensional line syntheses along [111]
were constructed and the peak heights were carefully adjusted.

Card 1/2

The distribution of the cations ...   S/070/62/007/006/002/020
                                             E132/E435

The object of the study, the vindication of the authors' earlier
work, was considered as achieved.   There are 4 figures and
1 table.

SUBMITTED: January 15, 1962

Card 2/2

ZASLAVSKIY, A.I.; KARACHENTSEVA, Z.V.; ZHARINOVA, A.I.

Cation arrangement in the spinel $CuMn_2O_4$. Kristallografiia 7 no.6:835-843
N-D '62.

(Spinel group)   (Crystallography)   (MIRA 16:4)

ALEYNIKOV, N.A.; ZHARINOVA, T.P.; NIKISHIN, G.I.; OGIBIN, Yu.N.;
PETROV, A.D.

Flotation properties of oxacarboxylic acids of the $C_n H_{n+1}$
OCOOH series of the $C_n - C_{18}$ composition. Zhur.prikl.khim.
35 no.5:1108-1115 My '62.   (MIRA 15:5)

1. Kol'skiy filial AN SSSR i Institut organicheskoy khimii
imeni N.D. Zelinskogo AN SSSR.
                    (Acids, Organic)
                        (Flotation)

ZHARINOVA, T.V.

False tumors of the cecum. Trudy TSIU 2:290-297 '61. (MIRA 15:8)
(CECUM--TUMORS)

ZHARINOVA, T.V.

Use of barbiturates in the clinic. Trudy TSIU 2:391-397 '61.

(MIRA 15:8)

(BARBITURATES)

ZHARINOVA, YE.

Itogi navigatsii 1934 goda. /Results of navigation in 1934_7. (Vodnyi transport,
1935, no. 3, p. 13-16).   DLC: HE561.R8

SO: SSoviet Transportation and Communications, A Bibliography, Library of Congress,
Reference Department, Washington, 1952 Unclassifeid.

ZHARINOV, Ye.A., inzh.

Operation of control valves in boilers at the Cherepet' State
Regional Electric Power Station. Elek. sta. 29 no.2:86-87 F '58.
                    (Boilers)   (Valves)   (MIRA 11:3)

ZHARINOV, Yu., inzh.-leytenant

Layer of blocks for treadway bridges. Voen.-inzh. zhur. 102
no.6:41-42 Je '58.   (MIRA 11:6)
(Military bridges--Equipment and supplies)

ZHARINOVA E.T.

Predvaritel nye itogi raboty rechnogo transporta v navigatsilu 1935 g. /Preliminary results
of operation of river transportation during the navigation of 1935_/. (Vodnyi transport,
1935, no. 12, p.9-10).

DLC: HE561.R8

SO: Soviet Transportation and Communications, A Bibliography, Library of Congress,
Reference Department, Washington, 1952 Unclassified.

ZHARINOVA, T.V.; NAUMOVA, Z.V.

Results of the use of the pneumoperitoneum in a surgical clinic.
Trudy TSIU 66:233-244 '64.

(MIRA 18:5)

SATPAYEV, K.; BAISHEV, S.; POLOSUKHIN, A.; CHOKIN, Sh.; AUEZOV, M.;
     MUKANOV, S.; KENESBAYEV, S.; SAURANBAYEV, N.; GALUZO, I.G.;
     BALAKAYEV, M.; MUSABAYEV, G.; MAKHMUDOV, Kh.; ISMAILOV, Ye.;
     SIL'CHENKO, M.; DYUSENBAYEV, I.; BAZARBAYEV, M.; SULEYMENOVA, B.
     NUSUPBEKOV, A.; SHOINBAYEV, T.; GABDULLIN, M.; ZHARKESHEVA, G.

     Sarsen Amanzholov; obituary. Vest. AN Kazakh. SSR 14 no.2:100-101
     F '58.   (MIRA 11:2)
               (Amanzholov, Sarsen Amanzholovich, 1903-)

ZHARKIKH, A. A.: Master Biol Sci (diss) -- "The activity of catalase and per-

oxidase in various permial grasses with different maturation dates, and the

effect of feeding small doses of nitrogen on the yield and biochemical composition

of foxtail-lucerne grass mixture". Gor'kiy, 1959. 19 pp (Min Agric USSR, Gor'kiy

Agric Inst), 150 copies (KL, No 17, 1959, 107)

TROFIMOV, M.G.; Prinimali uchastiye: TELIS, M.Ya., inzh.; ZHARKIKH, A.A.;
    KHEYFIN, V.Z.; PROVOTOROVA, G.V.

    Lining of vacuum and open induction smelting furnaces. Lit.
    proizv. no.8:14-16 Ag '62.   (MIRA 15;11)
                    (Electric furnaces) (Refractory materials)

ZHARKIKH, I.

Odin iz sposobov poverki vysotomerov s germeticheskim korpusom. (Vestnik
vozdushnogo flota, 1938, v.20, no. 4, p. 97-98, diagrs.)

Title tr: A method for checking altimeters with hermetically sealed bodies.

TL 504. V45 1938

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of
     Congress, 1955

GLAGOVSKIY, A.Ye., inzh.; ZHARKIKH, V.Z., inzh.

Automatic high-speed cutout AB-2/4 with 2 ka. and kv. rating.
Vest. elektroprom 34 no.6:37-40 Je '63.   (MIRA 16:7)

(Electric cutouts)   (Electric protection)
(Electric railroads--Equipment and supplies)

KAGAN, Ya.I., kand.fiz.-mat.nauk; KOVALENKO, A.D.,inzh.; ZHARKIKH, Y.Z., inzh.;
    BOGDANOV, O.I., inzh.; ZUBAR', V.P., inzh.; D'YAKONENKO, V.S., inzh.

    Automatic measurement of shaft diameters during grinding. Vest.mash.
    38 no.10:58-59 O '58.   (MIRA 11:11)
                    (Thickness measurement)

ZHARKIKH, V.Z.

Several problems in the operation of a factory laboratory.
Zav. lab. 24 no. 7:907-908 '58.   (MIRA 11:7)

1. Nachal'nik Otdela zavodskoy laboratorii Khar'kovskogo
elektromekhanicheskogo zavoda.
                                (Laboratories)

SOV/32-24-7-63/65

AUTHOR: Zharkikh, V. Z., Chief of the OZL of the Khar'kov Electro-
            mechanical Works

TITLE: On Some Difficulties in the Laboratory Work of Factories
            (O nekotorykh trudnostyakh v rabote zavodskoy laboratorii)

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol. 24, Nr 7, pp. 907 - 908
            (USSR)

ABSTRACT: The investigations and the qualitative control in the laboratory
            of the Khar'kov Electromechanical Works are carried out ac-
            cording to different methods; there exist, however, several
            obstacles for an extensive evaluation of the methods. Those
            difficulties are explained in 8 chapters according to the methods
            of investigation. It is mentioned that in default of the con-
            tinuous production of defectoscopes the methods of the in-
            vestigation in this field cannot be extended. A technical manual
            on the magnetic properties of constructional and instrument
            steels produced under different thermal processing conditions
            would have to be compiled for the control of the quality of the
Card 1/2   thermal processing of various metal products. Counters for the

On Some Difficulties in the Laboratory Work of Factories   SOV/32-24-7-63/65

investigations of Roentgen and gamma radiation had to be pro-
duced in series. Physical control methods for the determinations
of galvanic coatings had to be devised. The investigations in
the field of ultrasonics would have to be centralized and cor-
responding apparatus had to be produced. A lacking of the cor-
responding standards is found in spectral analysis methods. The
necessary vessels and chemical reagents for ordinary chemical
analysis must be at hand, and the various methods for the
individual elements had to be reduced to a few optimum ones by
the specialized institutes.

Card 2/2

ABDYLDAYEV, K.A.; ARESTOVA, S.I.; MAKOVA, S.K.; ZHARKIMBAYEVA, A.Zh.

Morphogenesis of experimental hypertension under high-mountain conditions. Trudy KirgNOAGE no.2:60-62 '65.

(MIRA 18:11)

1. Iz laboratorii patomorfologii (rukovoditel' – kand.med.nauk K.A.Abdyldayev) i patofiziologii (rukovoditel' – starshiy nauchnyy sotrudnik M.A.Aliyev) Kirgizskogo instituta krayevoy meditsiny AMN SSSR. Nauchnyy konsul'tant – zasluzhennyy deyatel' nauki, prof. D.F.Malyshev.

ZHARKIN, A. F.

"Variations in the Pericheric Nervous System of the Anterior
Abdominal Wall in the Postpartum Period (Experimental-Morphological.
Investigation)." (RZhBiol, No 1, Sep 54)

SO: Sum 432, 29 Mar 55

ZHARKIN, V.V.; LEONT'YEV, I.I., shofer.

Disinfection of livestock buildings using truck-mounted liquid manure spreaders. Veterinariia 38 no.4:76 Ap '61 (MIRA 18:1)

1. Glavnyy veterinarnyy vrach sovkhoza "Novyye Zelenki", Chervenskogo rayona, Minskoy oblasti (for Zharkin). 2. Sovkhoz "Novyye Zelenki", Chervenskogo rayona, Minskoy oblasti (for Leont'yev).

ZHARKIN, V. V. (Main Veterinary Surgeon) and LEONT'YEV, I. I. (Chauffeur, Sovkhoz "Novye Zelenki", Chervensk Raion, Minsk Oblast').

"Disinfection of animal husbandry buildings by utilizing the automatic liquid-manure distributer /sprayer/."

Veterinariya, Vol. 38, No. 4, 1961, p. 76.

ZHARKIY, I.D.

Workers of the power engineering industry of Leningrad are fighting
for technological progress. Vest.elektroprom. 33 no.4:54-55 Ap
'62.   (MIRA 15:4)

1. Zamestitel' predsedatelya Leningradskogo pravleniya Nauchno-
tekhnicheskogo obshchestva energeticheskoy promyshlennosti.
          (Leningrad--Electric equipment industry)

ZHARKO, K.P.

Clinical use of the sympathicolytic preparation ornid. Vrach.delo
no.2:28-32 F '63.   (MIRA 16:5)

1. Kafedra propedevtiki vnutrennikh bolezney (zav. - doktor med.
nauk Yu.D. Shul'ga) Khar'kovskogo meditsinskogo instituta i
otdel khimii gormonov (zav. - dotsent I.B. Simon) Ukrainskogo
instituta endokrinologii.
         (HYPERTENSION)   (AUTONOMIC DRUGS)

S/123/61/000/014/C04/045
A004/A101

AUTHOR: Zharko, V. S.

TITLE: Utilizing heat-treated low-alloyed steels in the manufacture of apparatus

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 14, 1961, 15, abstract 14A108 (Tr. Mosk. in-ta neftekhim. i gaz. prom-sti. 1960, no. 29, 119-124)

TEXT: The author analyzes the expediency of using the heat-treated M grade steel in the manufacture of apparatus for the petroleum industry, this steel having the following composition (in %): C $<$ 0.12, Mn - 1.3-1.7, Si - 0.12-0.8, Cu - 0.15-0.4, Ti - 0.03, Cr $\leqslant$ 0.3, Ni $\leqslant$ 0.3, S $\leqslant$ 0.045, P $\leqslant$ 0.04, with σ_b = 50.5, σ_s = 35 kg/mm^2 and δ_5 = 18%.

[Abstracter's note: Complete translation]

Card 1/1

ZHARKO, V.S.

Using heat-treated low-alloy steels in manufacturing petroleum refining apparatus. Trudy MINKHiGP no.29:119-124 '60.

(MIRA 13:12)

(Petroleum refineries—Equipment and supplies)

ZHARKOUSKI, D.V.; LIPATAU, S.M.

Problems of the structure of cellulose of varying modifications.
Vestsi BSSR no.2:160-168 Mr-Ap '52.   (MLRA 7:8)
        (Cellulose)

NIKUL'SHIN, K.; ZHARKOV, A.

New unloading machine. Stroitel' no.7:25-26 Jl '57.   (MLRA 10:9)
                     (Loading and unloading)

1. ZHARKOV, A.

2. USSR (600)

4. Community Centers

7. Improvement brought about by delegates to the conference, Klub no. 12, 1952.

9. **Monthly List of Russian Accessions**, Library of Congress, _____May_____ 1953. Unclassified.

ZHARKOV, A., inzh.; NIKUL'SHIN, K., inzh.

Hydraulic jack for repairing. Zhil.-kom. khoz. 12 no.9:18 S '62.
(MIRA 16:2)

(Hydraulic jacks)

ZHARKOV, A., serzhant

Converter for workshop communication. Tekh. i vooruzh. no.4:80-81
Ap '64.   (MIRA 17:9)

ZHARKOV, A.F., inzh.; SHVYLPLOV, A.K.

Using gas welding and pressure for railroad welding. Put'i put.
khoz. 4 no.7:14-15 Jl '60.   (MIRA 13:7)
     (Gas welding and cutting)
     (Railroads--Rails--Welding)

VLADIMIRSKIY, T.A. doktor tekhn. nauk, prof.; ZHARKOV, A.F.;
MEL'NIKOV, O.Ye.; SELIVANOV, K.V.; SHVILPOV, A.N.;
SARANTSEV, Yu.S., inzh., red.; USENKO, L.A., tekhn. red.

[Use of gas-pressure welding on the railroads of the
U.S.S.R.] Gazopressovaia svarka na zheleznykh dorogakh
SSSR. Moskva, Transzheldorizdat, 1963. 157 p.
                                        (MIRA 16:8)
(Gas welding and cutting)   (Railroads--Maintenance and repair)

ZHARKOV, A. F., inzh.

Gas pressure welding of rails. Put' i put. khoz. 7 no.3:
46-48 '63.   (MIRA 16:4)

(Railroads—Rails—Welding)

VLADIMIRSKIY, T.A., prof.; ZHARKOV, A.F., inzh.; SHVYLPOV, A.K., inzh.;
    PAUS, A.S., inzh.

    New machine for pressure gas welding. Put' i put.khoz. 8 no.6:
    11-12 '64.   (MIRA 17:9)

VLADIMIRSKIY, T.A., doktor tekhn.nauk; ZHARKOV, A.F., inzh.; SHVYLPOV, A.K., inzh.

Pressure gas welding of rails. Svar.proizv. no.8:17-20
Ag '60.   (MIRA 13:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zheleznodorozh-
nogo transporta Ministerstva putey soobshcheniya.
          (Gas welding and cutting)
          (Railroads--Rails--Welding)

VLADIMIRSKIY, T.A., doktor tekhn. nauk; ZHARKOV, A.F., inzh.; SHVYLPOV, A.K.

Gas pressure welding of rails. Zhel. dor. transp. 40 no.12:28-34
D '58. (MIRA 12:3)
(Railroads--Rails--Welding)

ZHAREOV, A.F., inzh.

Investigating gas and pressure welding of R50 and R65 rails.
Trudy TSNII MPS no.166:31-97 '59.   (MIRA 12:7)
  (Gas welding and cutting)   (Railroads--Rails--Welding)

ZHARKOV, A.F., inzh.; SHVYLPOV, A.K., inzh.

    Mechanical burring. Put' i put. khoz. 5 no. 1:26-27 Ja '61.

                                        (MIRA 14:5)

                (Railroads—Rails)

SERGEYEV, Nikolay Petrovich; FEYGENSON, Moisey Samuilovich; ZHARKOV, A.I.,
inzh., retsenzent; ZVEGINTSEVA, K.V., inzh., red.; STEPANCHENKO,
N.S., red. izd-va; EL'KIND, V.D., tekhn. red.

[Electric resistance welding] Elektricheskaia kontaktnaia svarka.
Izd. 2., perer. i dop. Moskva, Gos. nauchno-tekhn. idz-vo machino-
stroit. lit-ry, 1958. 286 p.   (MIRA 11:10)
                          (Electric welding)

ZHARKOV, Aleksandr Fedorovich; ZUYEV, Mikhail Georgiyevich; OBUKHOV,
Aleksandr Vasil'yevich; KHRYASHCHEVA, Nina Kuz'minichna;
KOLOTUSHKIN, V.I., redaktor; MEDVEDEV, L.Ya., tekhnicheskiy
redaktor

[Electric spark welding of R-18 rails in great lengths for peat
enterprises] Elektrokontaktnaia svarka rel'sov R-18 v dlinnye
ploti na torfopredpriiatiiakh. Moskva, Gos.energ.izd-vo, 1957.
69 p.   (MIRA 10:11)
        (Railroads--Rails)
        (Electric cutting machinery)

ZHARKOV, A.F., inzhener; OBUKHOV, A.V., inzhener.

Electric contact welding of rails for narrow-gauge railroads.
Torf.prom.33 no.3:20-22 '56.   (MIRA 9:7)

1.TSentral'nyy nauchno-issledovatel'skiy institut Ministerstva
putey soobshcheniya (for Zharkov, Obukhov).2.Glavtorf Minister-
stva elektrostantsii (for Zuyev).
     (Electric welding) (Railroads--Rails)

ZHARKOV, A.I.

Experience in centralized transportation of petroleum products.
Transp. i khran.nefti no.6:28-29 '63.   (MIRA 17:3)

1. Krasnoarmeyskaya perevalochnaya neftebaza Volgogradskogo
upravleniya Glavnogo upravleniya po transportu i snabzheniyu
neft'yu i nefteproduktama, RSFSR.

ZHARKOV, A.P.

PHASE I BOOK EXPLOITATION   SOV/3503

Akademiya nauk SSSR. Radievyy institut

Trudy, t. IX (Transactions of the Radium Institute, Academy of Sciences USSR, Vol. 9) Moscow, Izd-vo AN SSSR, 1959. 287 p. Errata slip inserted. 1,700 copies printed.

Ed.: K.A. Petrllov, Doctor of Physical and Mathematical Sciences; Ed. of Publishing House: O.M. Aron; Tech. Ed.: A.V. Smirnova.

PURPOSE: The volume is intended for physicists.

COVERAGE: The book represents volume 9 of the Transactions of the Radium Institute and contains the results of studies conducted at the Institute chiefly from 1955 to 1956. There are a number of articles dealing with the study of nuclear reactions occurring with particles of different energies ranging from several ef up to hundreds of MeV. Others treat different problems of the physics of neutrons. Results of studies of various neutron sources, neutron energy distribution in a moderator (water), and other problems connected with the theory of neutron interaction with matter are presented. The majority of the articles are concerned with problems of method. The authors provide a complete description of the construction of equipment and of the results of tests performed under laboratory conditions. No personalities are mentioned. References accompany individual articles.

S/186/60/002/002/021/022
E071/E433

AUTHORS: Starik, I.Ye., Arslanov, Kh.A, and Zharkov, A.P.

TITLE: A scintillation technique of counting natural radioactive carbon and its application for the determination of absolute age

PERIODICAL: Radiokhimiya, 1960, Vol.2, No.2, pp.259-260

TEXT: The scintillation technique is little used for the determination of age probably due to the complexity of the chemical preparation of specimens.   The authors developed a method of counting natural radioactive carbon in the form of ethylbenzene or benzene.   The scheme of preparation of specimens is as follows:

Card 1/2

A scintillation technique ...   S/186/60/002/002/021/022
                                       E071/E433

A complete method of chemical treatment will be described later.
The measurement of specific activities of ethylbenzene and
benzene was carried out using a coincidence technique.   The method
has been used for one year for dating geological specimens and due
to its high efficiency can be used for other soft β radiations.
There are 1 table and 2 references: 1 Soviet and 1 non-Soviet.

SUBMITTED: January 12, 1960

Card 2/2

STARIK, I.Ye.; ZHARKOV, A.P.; LISITSYN, A.P.

Rate of recent and late Quaternary sedimentation in the southern part of the Pacific Ocean according to the data of the radiocarbon method. Dokl. AN SSSR 139 no.4:970-973 Ag '61.   (MIRA 14:7)

1. Radiyevyy institut im. V.G. Khlopina AN SSSR i Institut okeanologii AN SSSR. 2. Chlen-korrespondent AN SSSR (for Starik).
(Pacific Ocean--Sedimentation and deposition)
(Geological time)

STARIK, I.Ye.; ZHARKOV, A.P.

Use of radiocarbon dating for studying the processes of recent
sedimentation. Biul.Kom.po opr.abs.vozr.geol.form. no.5:35-42
'62.
(MIRA 15:11)

(Radiocarbon dating)   (Deep-sea deposits)

ZHARKOV, A.P.

VIL'DGRUBE, G.S.; ZHARKOV, A.P.; TETERIN, Ye.D.

Amplitude and time characteristics of a new photoelectric multiplier.
Izv. AN SSSR. Ser. fiz. 21 no.7:1034-1035 Jl '57.   (MIRA 10:9)

1. Radiyevyyy institut imeni V.G. Khlopina Akademii nauk SSSR.
                   (Photoelectric multipliers)

ZHARKOV, A.P.

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TITLE: Amplitude and Time Characteristics of a New Photoamplifier
          (Amplitudnyye i vremennyye kharakteristiki novogo fotoumnozhi-
          telya)

PERIODICAL: Izvestiya Akad. Nauk SSSR, Ser. Fiz., 1957, Vol. 21, Nr 7,
             pp. 1034 - 1035 (USSR)

ABSTRACT: It was hitherto assumed that no short times of increase of the
            current impulses may be obtained on a shutter-type photoamplifier.
            When the time spreading of the flight of electrons in the ampli-
            fication system of a photoamplifier is checked, the following can
            be found. The spreading time of the flight of electrons noticed
            at the exit mainly consists of two components: 1.) the dispers-
            ion on the section photocathode first "dinode" and 2.) the dis-
            persion on the other amplifier system. The first component is the
            most important and irreversible one, for it determines the dis-
            persion of the initial moments of the corresponding impulses and
            cannot be corrected by any scheme solutions. The second compo-
            nent is in this sense reversible that in the case of sufficient

Card 1/2

48-7-21/21

Amplitude and Time Characteristics of a New Photoamplifier

amplification of the amplifier only the initial part of the im-
pulse increase can be utilized for measurements. It was observed
in the photoamplifiers $\phi\ni\mathsf{Y}$ - 11 ($\phi\ni\mathsf{Y}$ - 12) that the increase
time of the initial current impulse decreases with a stress in-
crease (up to 300 V on one stage). Quite a number of modifications
were carried out in the construction of the new photoampli-
fier. The total view of this amplifier may be seen on the fi-
gure. The modifications in the construction of the new photo-
amplifier are further described and explained in detail, as well
as its time and amplitude characteristics. There are 1 figure
(photograph of the individual types of tubes) and 1 Slavic re-
ference.

ASSOCIATION: Radium Institute im. V.G. Khlopin, AN USSR   (Radiyevyy institut
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Card 2/2

STARIK, I. Ye.; ARSLANOV, Kh. A.; ZHARKOV, A.P.

Scintillation technique of counting natural radiocarbon and its
application to the determination of absolute age. Radiokhimiia 2
no.6:259-260 '60.   (MIRA 14:4)
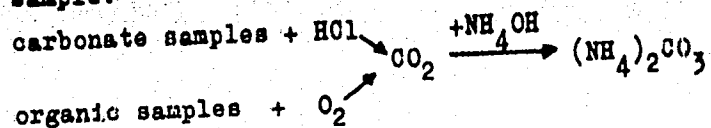   (Radiocarbon dating)
                    (Carbon—Isotopes)

AUTHORS: Starik, I.Ye., Shamov, V.P., Arslanov, Kh.A., Zharkov, A.P.,
Murashov, G.M.

TITLE: Scintillation technique of counting natural radio-carbon and its
application to the determination of the absolute age
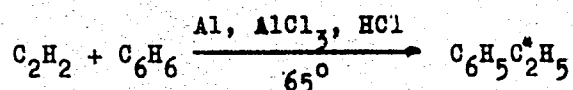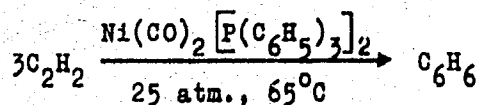
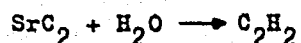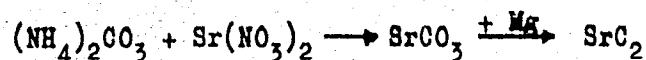PERIODICAL: Radiokhimiya, v 3, no 1, 1961, 101-113

TEXT: The present article deals with a method developed by the authors for
liquid-scintillation counting of natural radio-carbon, intended for deter-
mining the absolute age. The following scheme was used for the chemical
preparation of the sample:

$$\text{carbonate samples} + HCl \searrow$$
$$CO_2 \xrightarrow{+NH_4OH} (NH_4)_2CO_3$$
$$\text{organic samples} + O_2 \nearrow$$

Card 1/6

$$(NH_4)_2CO_3 + Sr(NO_3)_2 \longrightarrow SrCO_3 \xrightarrow{\pm Mg} SrC_2$$

$$SrC_2 + H_2O \longrightarrow C_2H_2$$

$$3C_2H_2 \xrightarrow[25 \text{ atm., } 65^\circ C]{Ni(CO)_2[P(C_6H_5)_3]_2} C_6H_6$$

$$C_2H_2 + C_6H_6 \xrightarrow[65^\circ]{Al, AlCl_3, HCl} C_6H_5C_2H_5$$

A coincidence scintillation counter was designed for counting C^{14}, and benzene and ethylbenzene were used as the liquid scintillator solvents, synthesized according to the above-given scheme. Combined with a highly-effective counter these can be used to determine the absolute age up to 37,000 years in the case of ethylbenzene, and 48,000 years in the case of benzene. In selecting a scintillation counting method the authors base their attempts on finding a substance which is easily prepared and does not require large

Card 2/8 6

Scintillation technique of counting ...

amounts of carbon, so that the advantages of both the proportionate and scintillation methods could be combined. Ethylbenzene and benzene chosen by the authors as the carriers of the natural carbon activity are said to render the scintillation method applicable to young samples and in the case of old ones increase the sensitivity of the method. Ethylbenzene is recommended from the following considerations: 1) 22.3% from the sample can be introduced into the ethylbenzene molecule; 2) the ethylbenzene molecule itself is an excellent solvent of liquid scintillators, being inferior only to the very best solvents, such as toluene, xylene; 3) its preparation and purification are simple and do not require complex apparatus or reagents difficult to obtain; 4) for its synthesis a relatively low amount of carbon, 8-15 g, is required. The apparatus used by the authors to count natural C^{14} is described: the photomultipliers function at room temperature, the complete amplification of the amplifier is 400. The counting rate of the noise pulses at an effectiveness of the count of natural C^{14} equalling 60-65% is 0.5 pulses/min. An upper level discriminator is used to lower the counting rate of the background determined by the cosmic and external radiations in the given apparatus. Fig 1 is a block-diagram of the described

Card 3/8, 6